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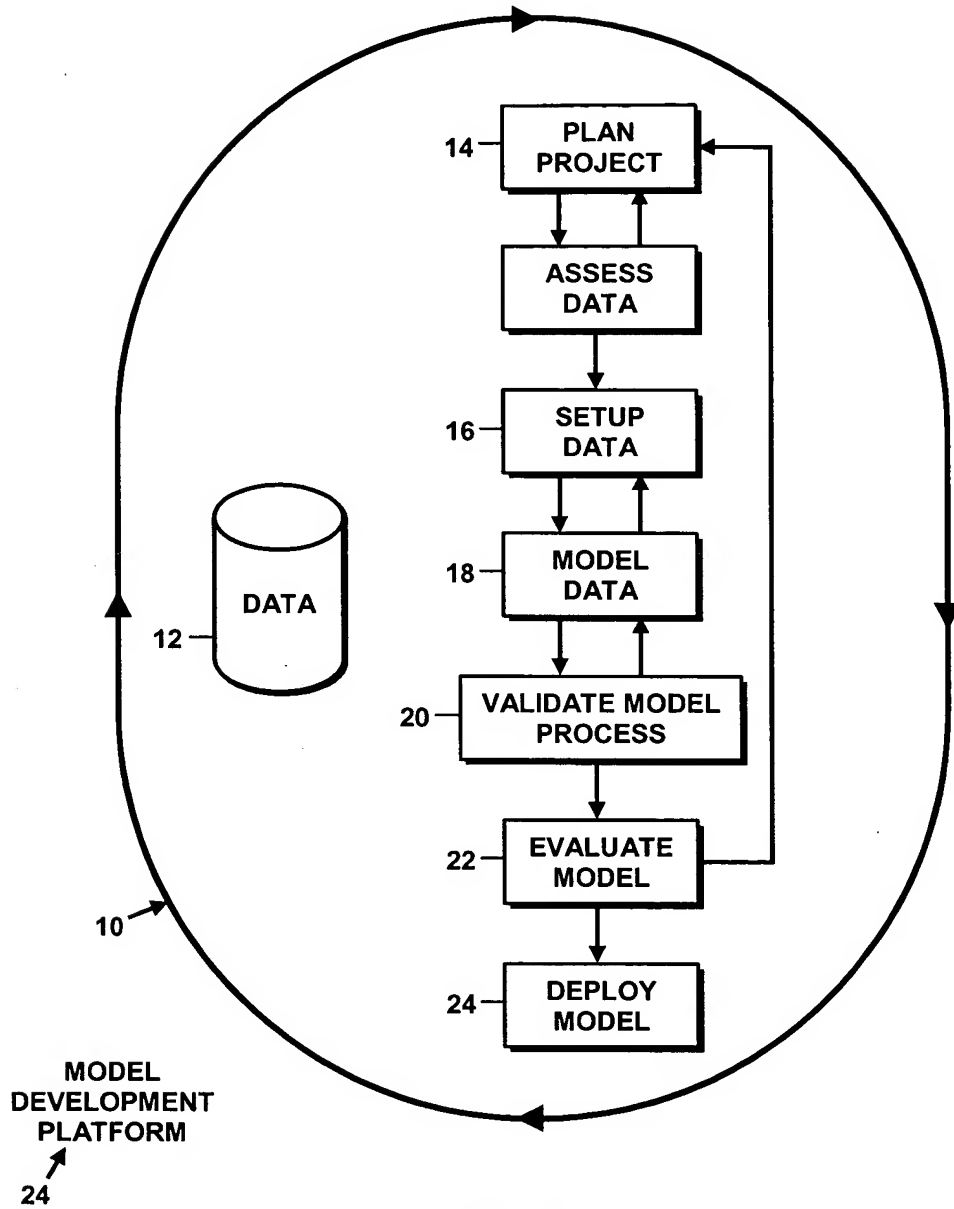


FIG. 1

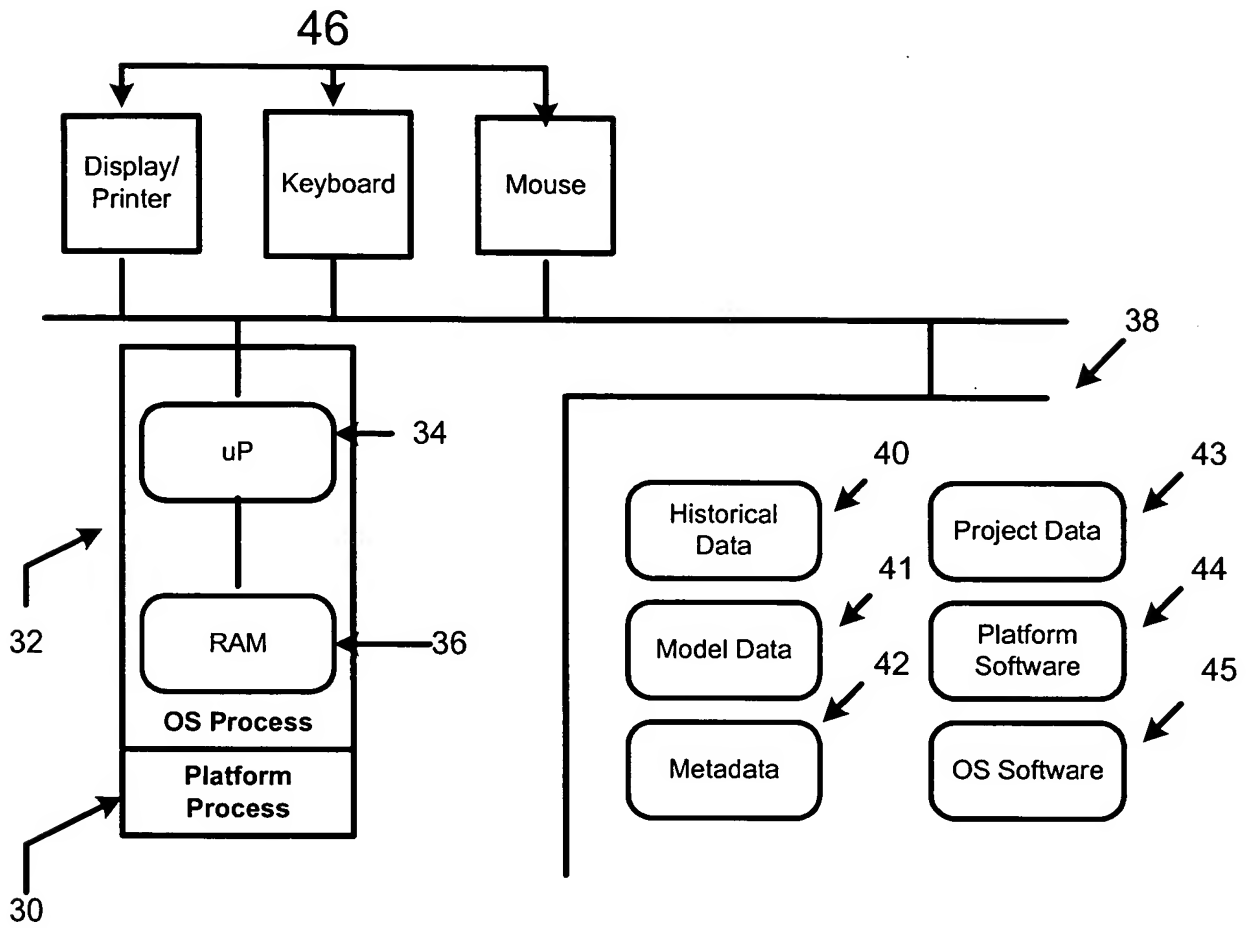


FIGURE 2

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#	Field Name	Data Type	Description
1	ProjectID	AutoNumber	Unique Number indexing Model Projects
2	ProjectName	Text	Reference Name for Model Project
3	ProjectType	Text	Type of Model to be constructed (Response, Clone, Suppression,)
4	ProjectGoal	Text	Analyst-defined goal for current Model Project
5	ProjectBeginDate	Date/Time	Identifying Time Stamp for first use
6	ProjectEndDate	Date/Time	Last used Time Stamp
7	ProjectDataset	Text	Full pathname reference to Development dataset
8	ProjectDataDictionary	Text	Full pathname reference to metadata and Model status and data
9	ProjectLog	Text	Full pathname reference to log of Analyst decisions
10	DependentVariable	Text	Target variable selected for Model
11	ModelFitnessCriterion	Number	Desired c-index for Model set by Analyst
12	ModelPerformanceCriterion	Number	Desired zone of positive Model Gain set by Client
13	ModelPerformanceMonotonicityCriterion	Number	Desired level of Monotonicity
14	DevelopmentDatasetSize	Number	Total number of records in Development Dataset
15	PositiveOutcomes(%)	Number	Number of successful outcomes as a percent of Development Dataset Size
16	SampleSize(%)	Number	Size of Training Sample as a percent of total Development Dataset Size used for Candidate Model
17	VariableCount	Number	Initial Number of Predictor Variables
18	SampleDistribution	Hyperlink	Distribution of Predictor Variables: Graphs and Statistics
19	SampleByDistribution	Hyperlink	Distribution of Predictor Variables for Positive and Negative Outcomes
20	Interaction Tree	Hyperlink	Cross-validated Partition Tree for Key Predictor Variables
21	DimensionReductionMissingFilter	Number	Number of Predictor Variables Eliminated for Missing Variables
22	DimensionReductionCutoff	Number	Cutoff set by Analyst for Percent of Missing Values Acceptable
23	DimensionReductionMainEffects	Number	Number of Predictor Variables Retained for Main Effects
24	DimensionReductionMainEffectsCutoff	Number	Cutoff set by Analyst for Significance of Main Effects
25	DimensionReductionInteractionEffects	Number	Number of Predictor Variables Retained for Interaction Effects
26	DimensionReductionInteractionEffectsCutoff	Number	Cutoff set by Analyst for Significance of Interaction Effects
27	DimensionReductionVariableCount	Number	Number of Predictor Variables resulting from Dimension Reduction
28	CandidateModelChoice	Text	Model Type applied to Dimension Reduced Dataset
29	CandidateModelChoiceConstraint	Number	Retention Cutoff or Significance Level for Model Variables
30	CandidateModelResults	Hyperlink	Model Fitting Results
31	CandidateModelLiftChart	Hyperlink	Model Non-cumulative Lift Chart
32	CandidateModelPersistenceChart	Hyperlink	Model Persistence Chart for Key Variables
33	ValidationMethod	Text	Method Selected for Model Development Process Validation
34	ValidationMethodResults	Hyperlink	Model Application to Validation Dataset(s) Results
35	ValidationMethodLiftChart	Hyperlink	Model Validation Lift Chart
36	FinalModelResults	Hyperlink	Model Development Process applied to Full Development Dataset Results
37	FinalModelLiftChartComparison	Hyperlink	Final Model applied to Sample and Validation Datasets for Cumulative Lift
38	FinalModelNonCumulativeLiftChartComparison	Hyperlink	Final Model applied to Sample and Validation Datasets for Non-cumulative Lift
39	FinalModelEquation	Text	Model Parameterized Equation using Model Transformed Variables
40	ScoringDataset	Text	Full pathname reference to Scoring File Input Dataset
41	DevelopmentScoringComparison	Hyperlink	Key Variable Comparison on Decide Basis
42	DevelopmentScoringDistributionComparison	Hyperlink	Propensity Score Distribution for Development and Scoring File (Subset)
43	ScoringResults	Text	Full pathname reference to Scoring File Output Dataset
44	InsightProfileMethod	Text	Method for Ranking Customer Insight Variables
45	InsightProfile	Hyperlink	Ranked List of Key Variables
46	InsightProfileChart	Hyperlink	Insight Chart of Key Variable Differential Contribution
47	FinalReportEntry	Memo	Final Report Description and Comments

FIGURE 3

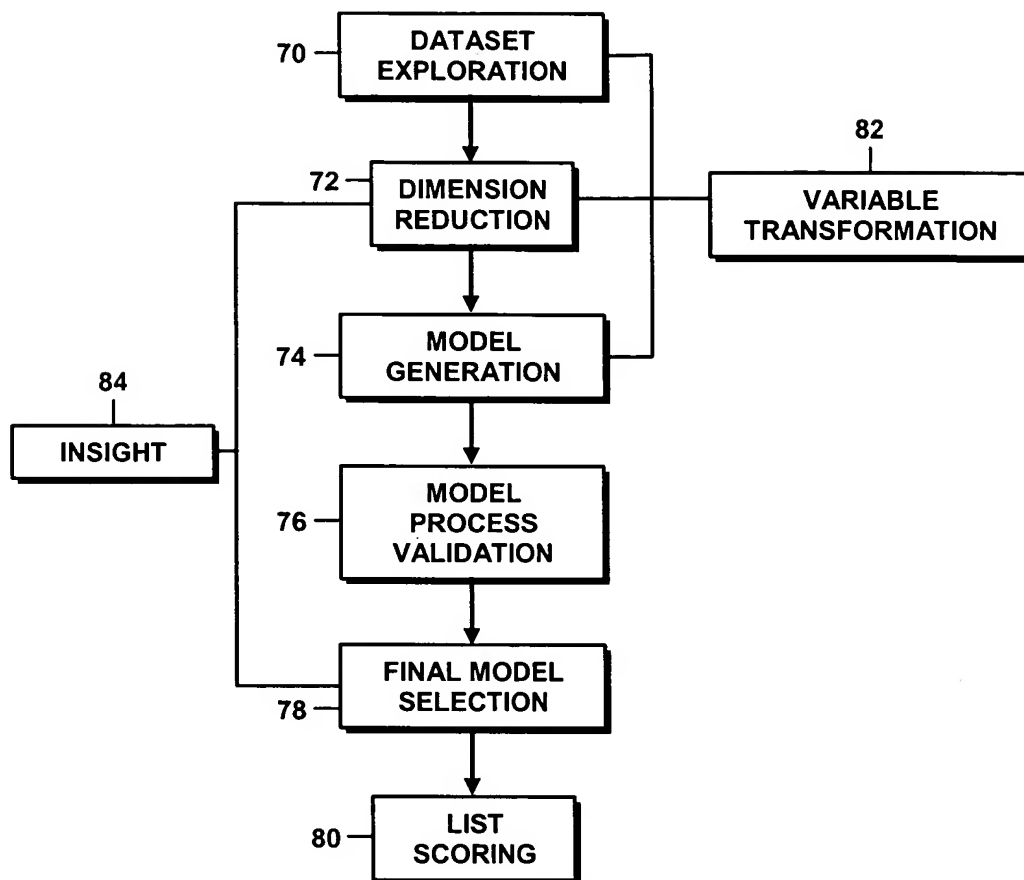


FIG. 4

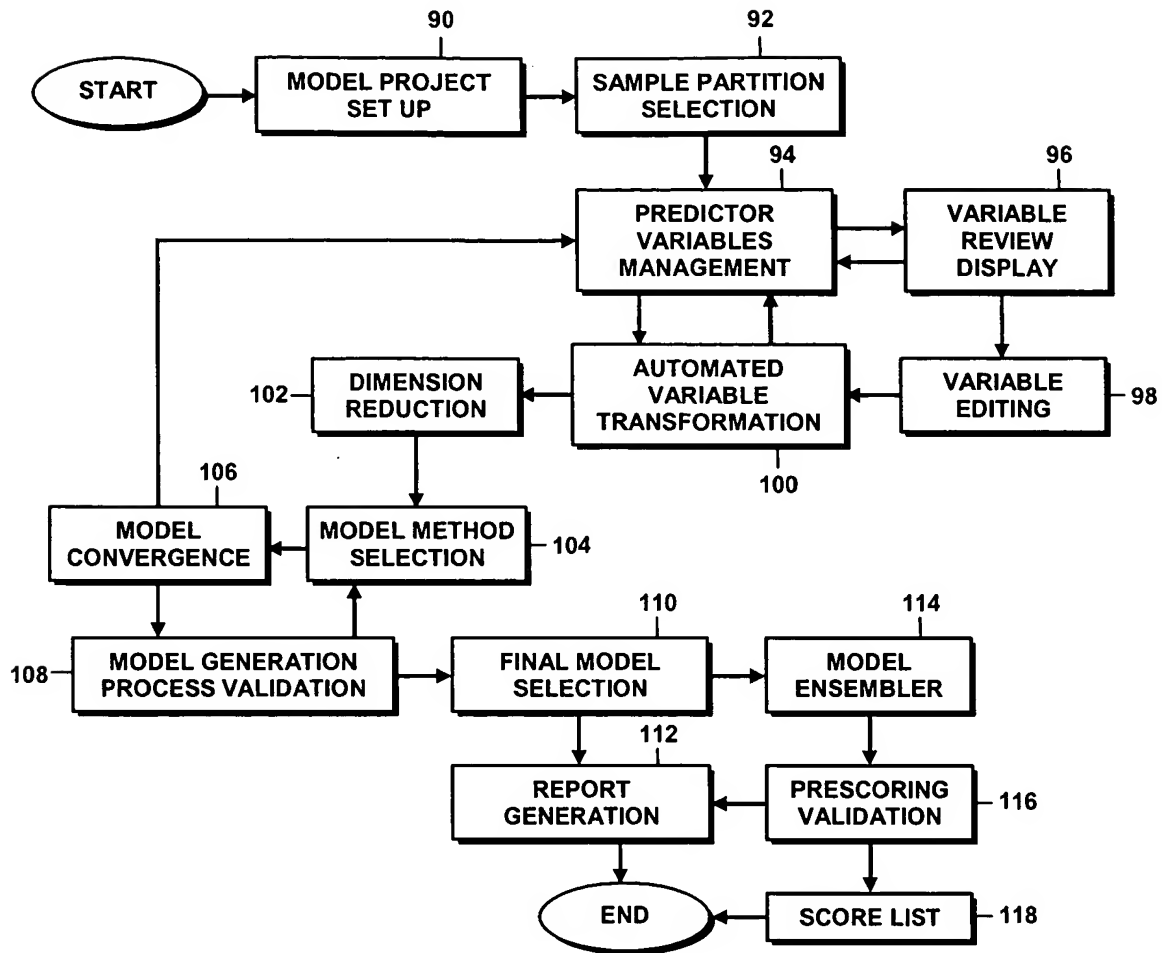


FIG. 5

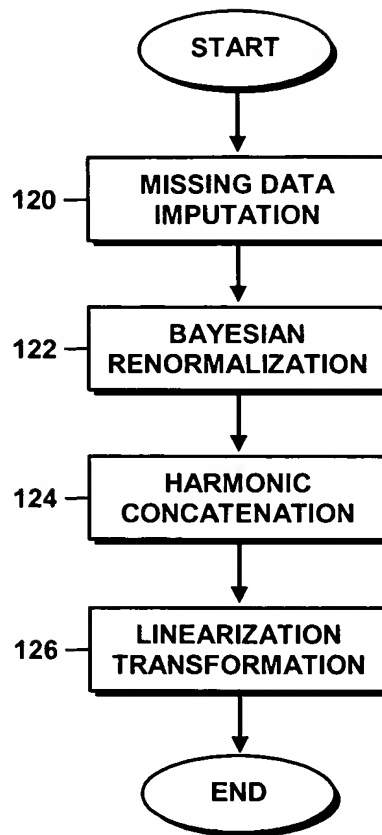


FIG. 6

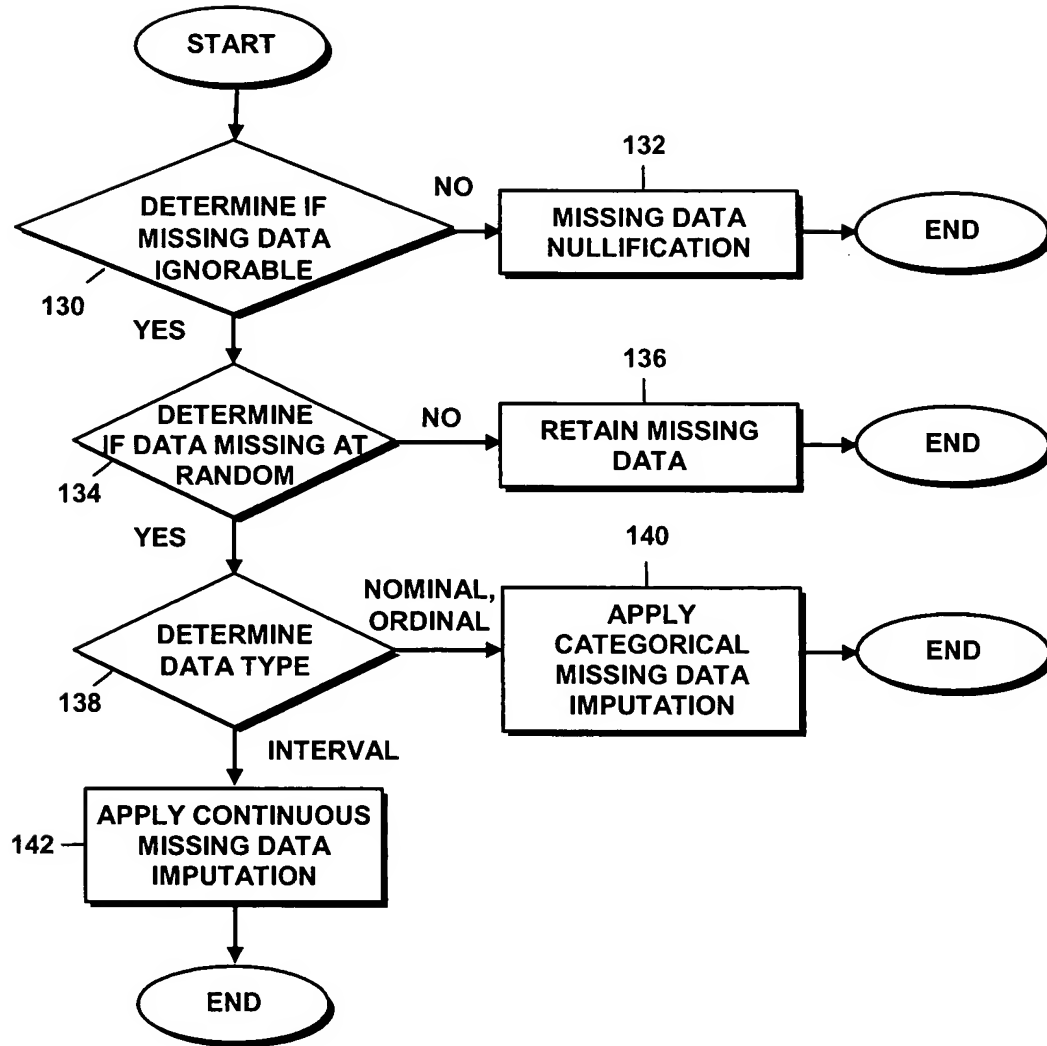


FIG. 7

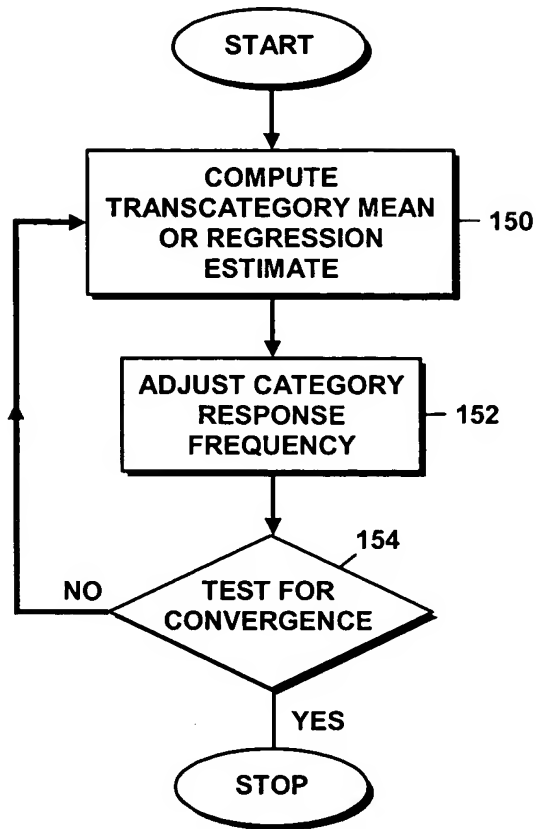


FIG. 8

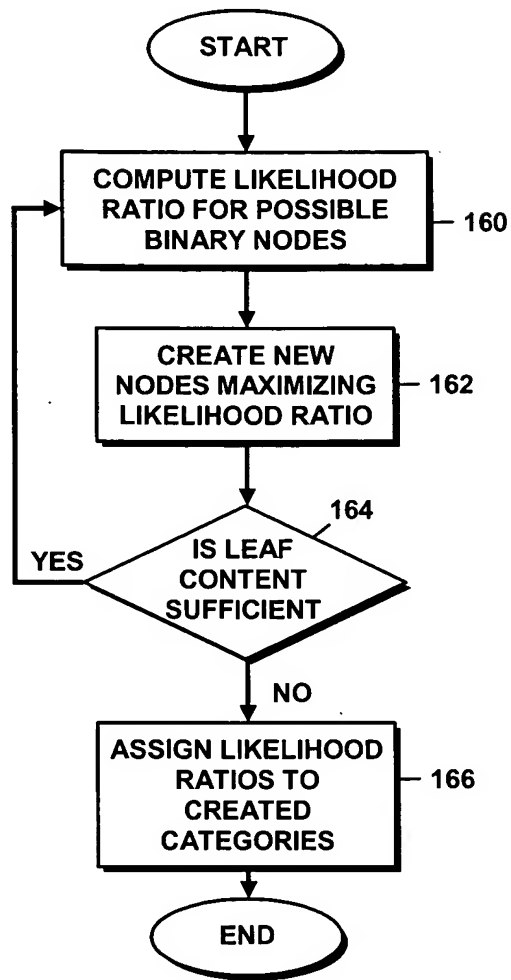


FIG. 9

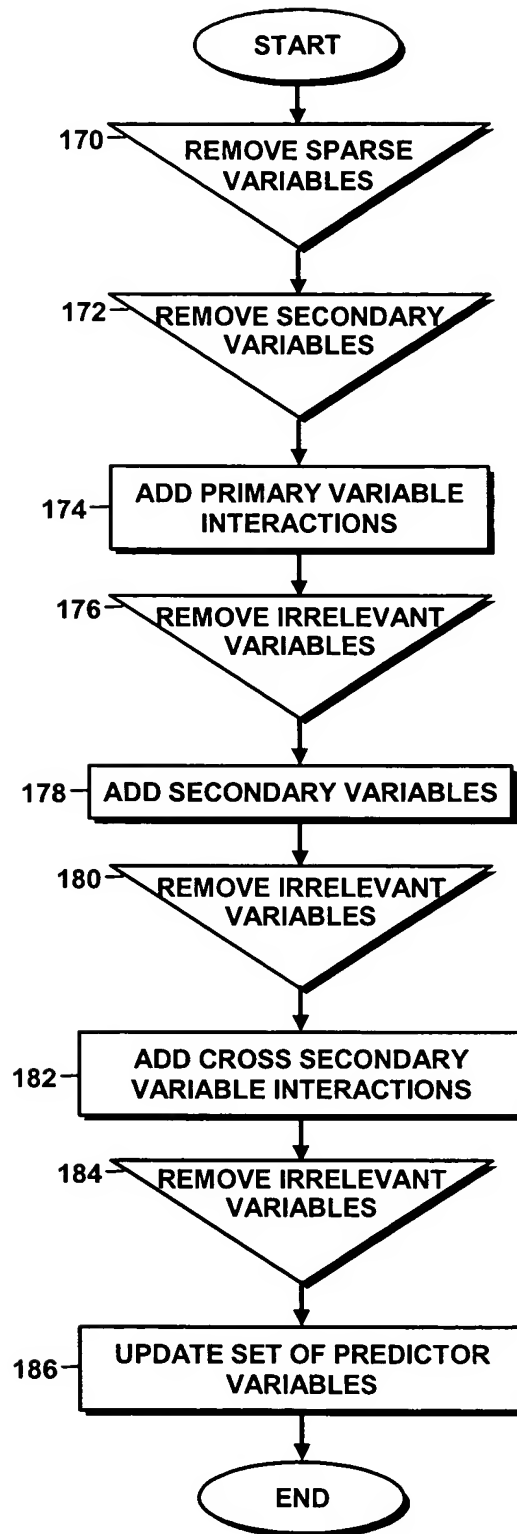


FIG. 10

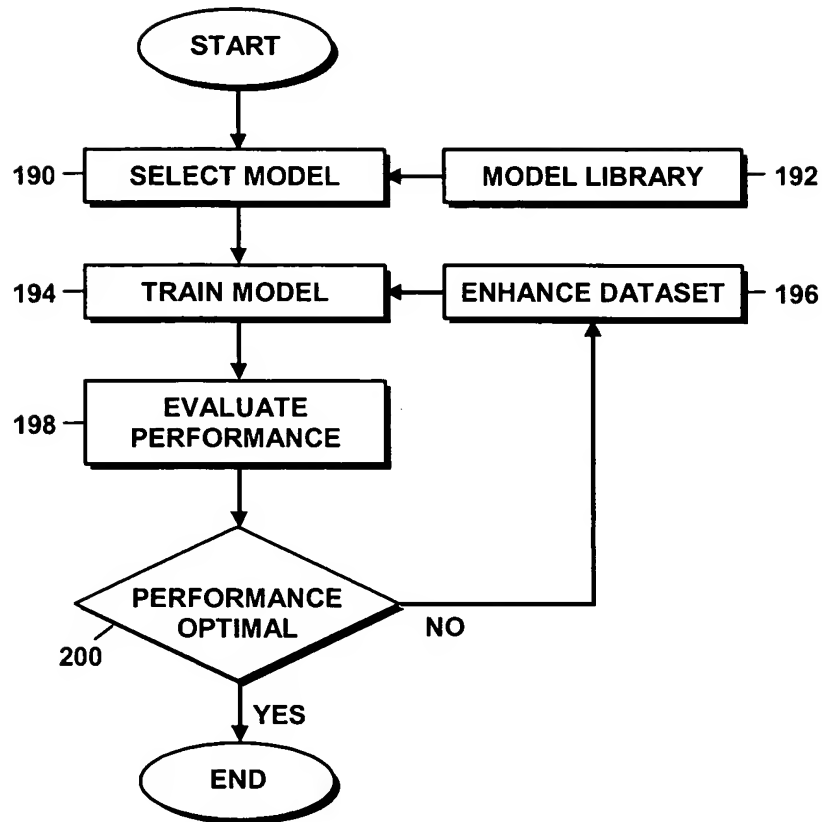


FIG. 11

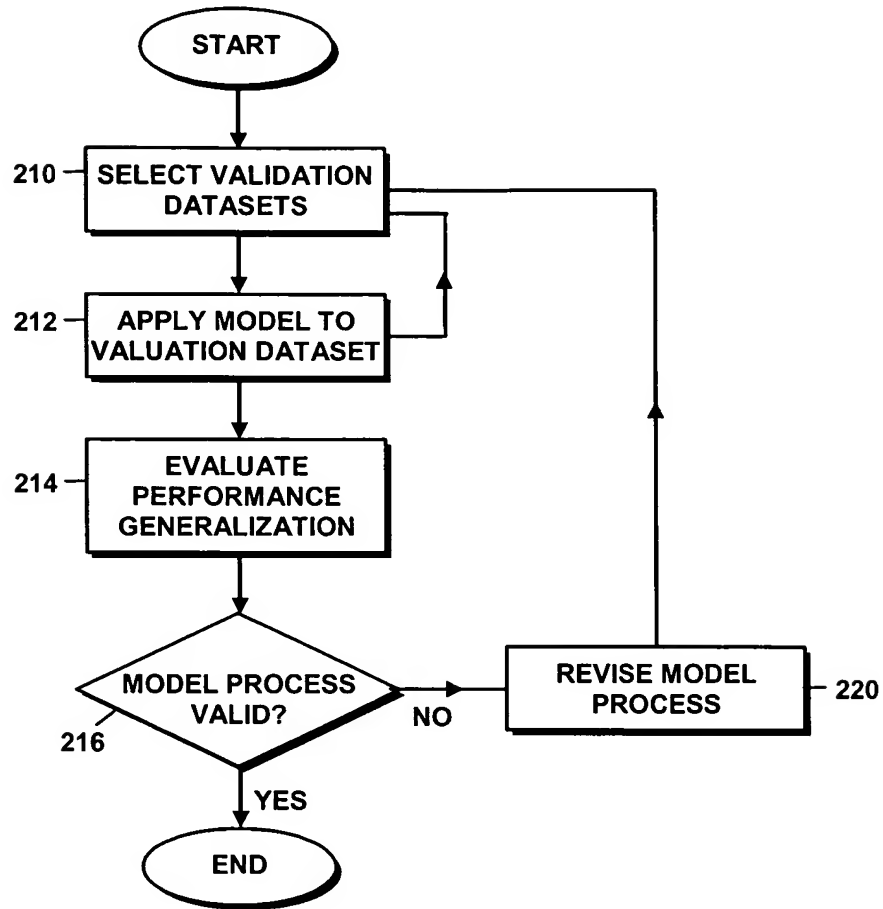


FIG. 12

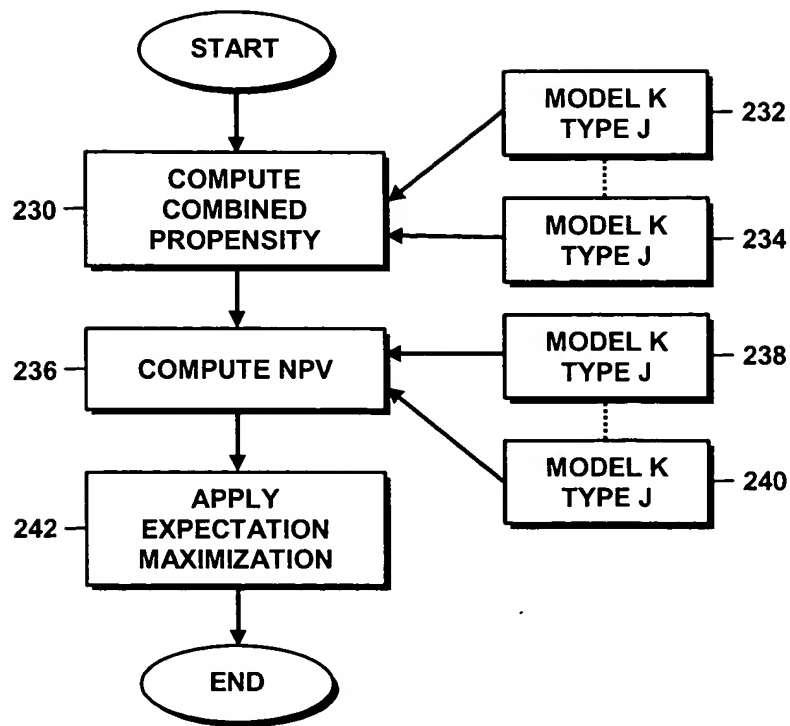


FIG. 13

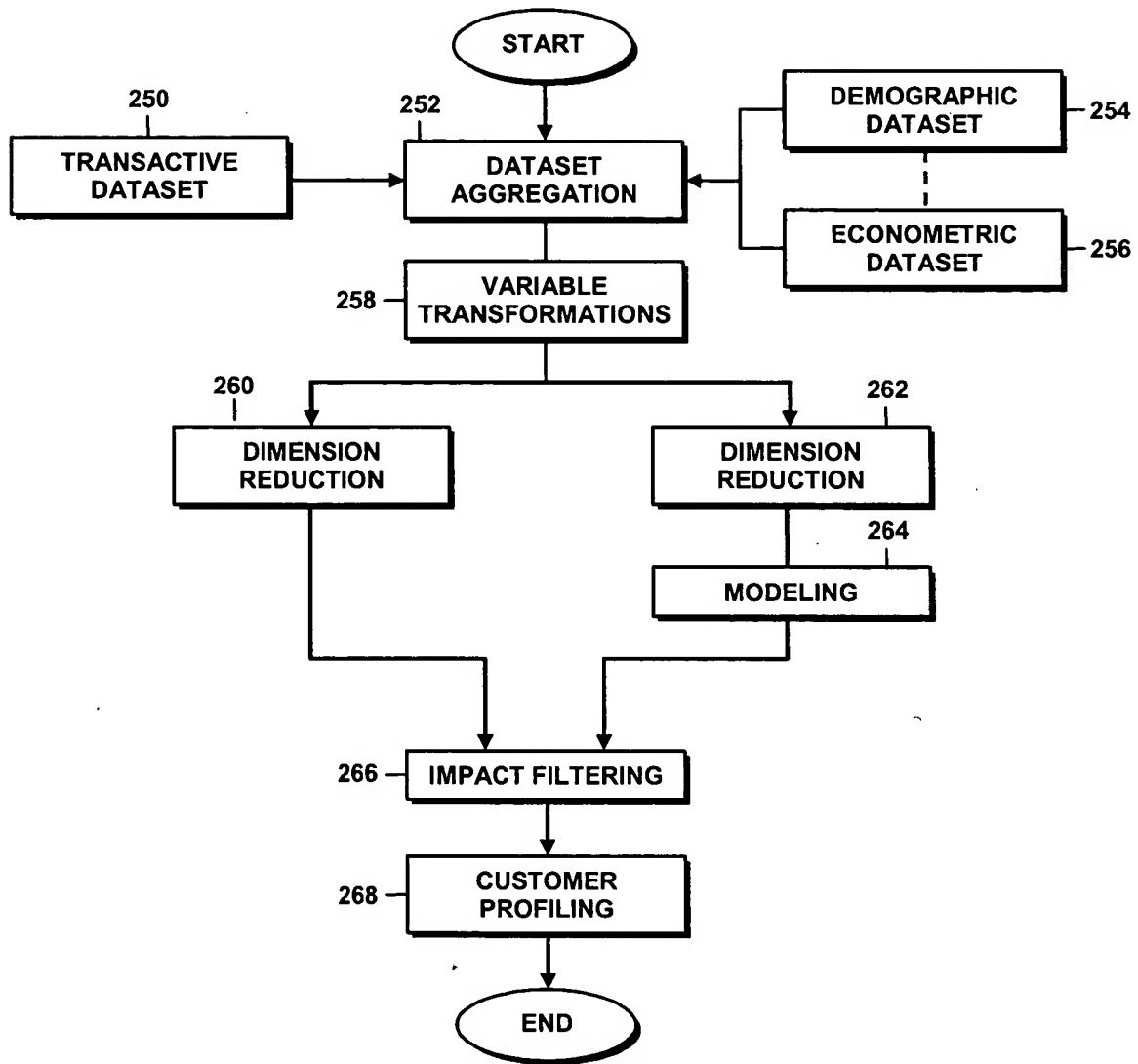


FIG. 14

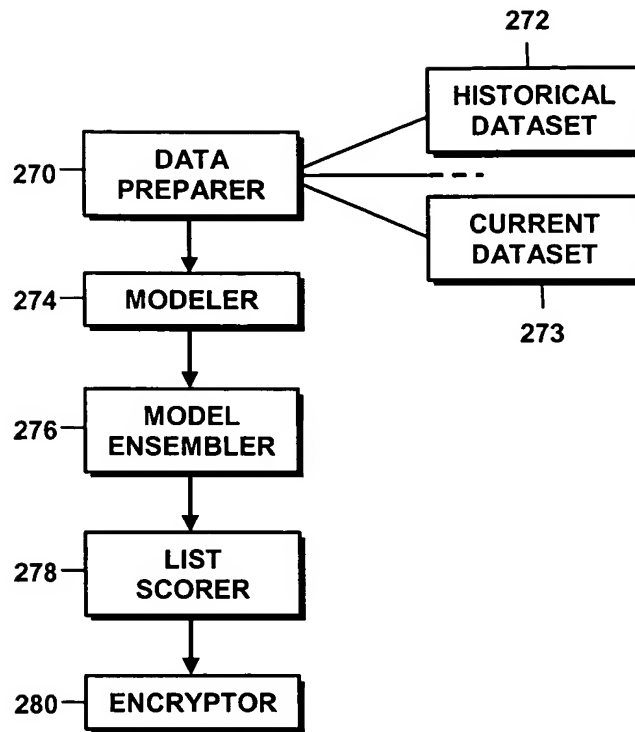


FIG. 15

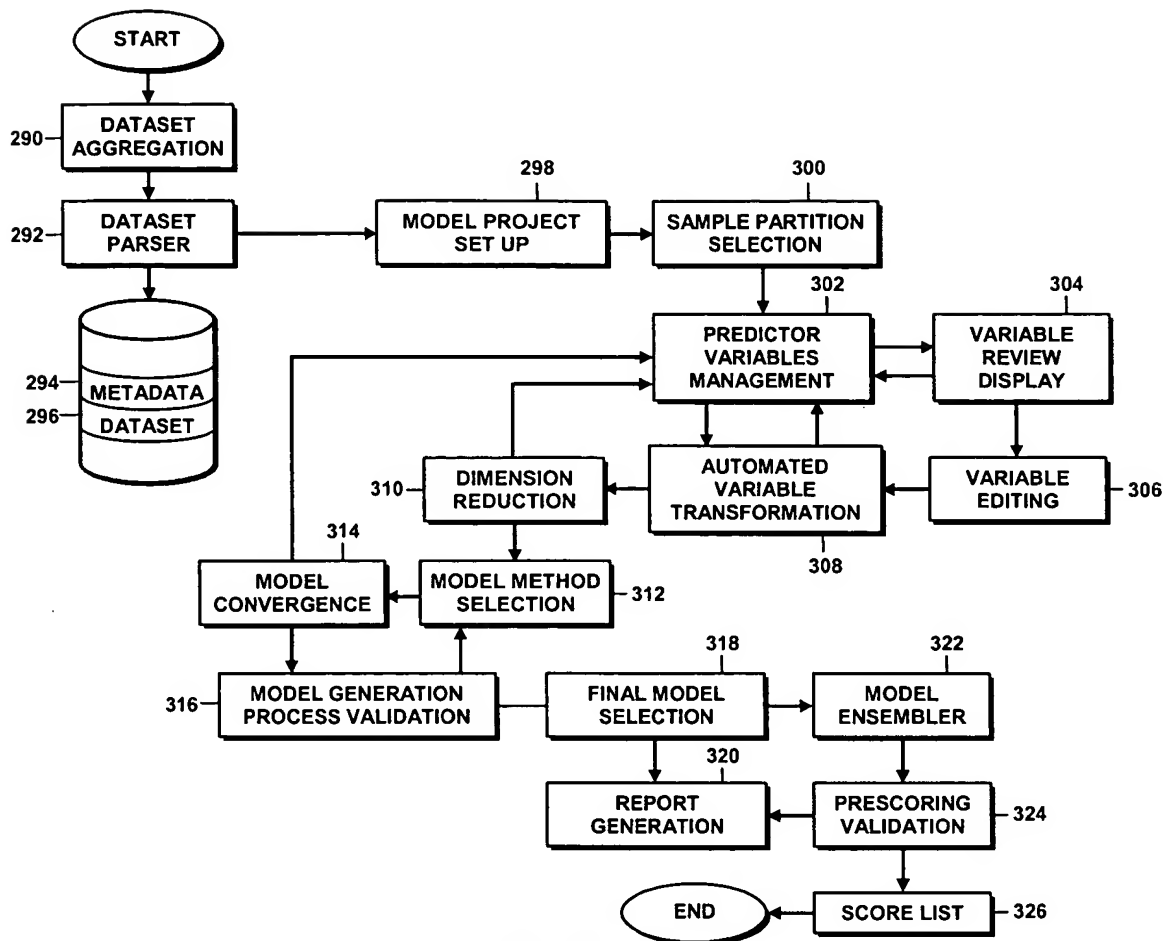


FIG. 16

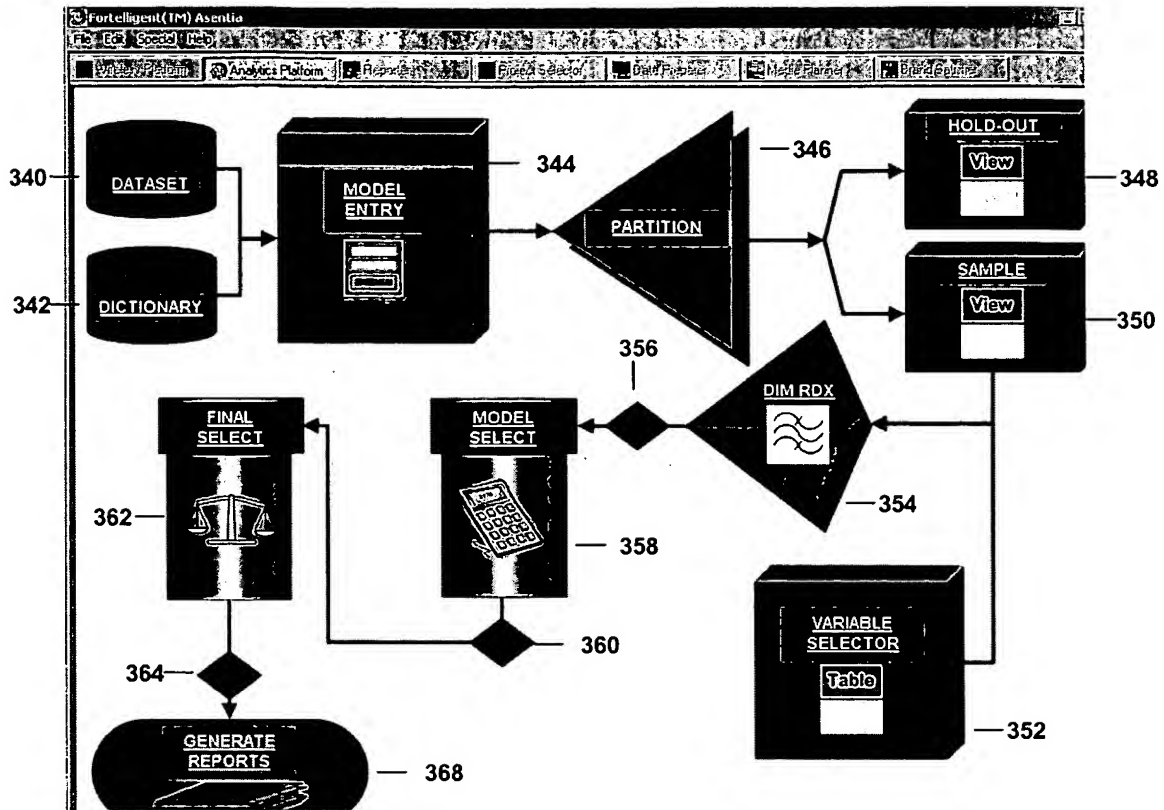


FIG. 17

Model Project Entry Form

Model Name: Model Type:

Model Project Goal or Scope:

Browse Datasource: 370

Browse Dictionary: 372

Dependent Variable (Y): 374

Candidate Model Properties

Success criterion (c >):

Success criterion (KS >):

Model Regressor Variables

Model Constraints

Penetration Depth (%):

☒ Monotone Lift Required

☒ Impute Missing Values

Variable	Variable Description
CustomerID	Identification Number for Customer
Current_purchase	Made a purchase in current campaign
Recent_purchase	Recently purchased
Recently_contacted	Contacted within last 8 months
Very_recently_contacted	Contacted within last 30 days
Prior_contact_before_purchase1	Contacted before purchase of first kind
Prior_contact_before_purchase2	Contacted before purchase of second kind
Prior_purchase1	Purchase of first kind in recent campaign
Prior_purchase2	Purchase of second kind in recent campaign
No_recent_purchase1	No purchase of first kind in recent campaign
Regional_group1	located in Zone 1

Submit 376

FIG. 18A

DataDictionary : Table				
Variable	Variable Type	Variable Description	Variable Definition	Status
CustomerID	N	Identification Number for Customer	CustomerID	XP
Current_purchase	N	Made a purchase in current campaign	Current_purchase	P
Recent_purchase	N	Recently purchased	Recent_purchase	P
Recently_contacted	N	Contacted within last 8 months	Recently_contacted	P
Very_recently_contacted	N	Contacted within last 30 days	Very_recently_contacted	P

FIG. 18B

Predictor Variables Palette

Excluded Constructed Variables

Predictor Variables

Recent_purchase
Recently_contacted
Prior_contact_before_purchas
Prior_contact_before_purchas
Prior_purchase1
Prior_purchase2
No_recent_purchase1
Regional_group6

→

←

Excluded Primary Variables

CustomerID
Current_purchase
Very_recently_contacted
Regional_group1
Regional_group2
Regional_group3
Regional_group4
Regional_group5

←

→

Variable Editor

Variable	Definition
Recent_purchase	Recent_purchase
Recently purchased	
Description	
<div style="display: flex; gap: 5px;"> <div style="border: 1px solid black; padding: 2px 5px;">Edit</div> <div style="border: 1px solid black; padding: 2px 5px;">Save</div> <div style="border: 1px solid black; padding: 2px 5px;">Clear</div> </div>	<div style="display: flex; gap: 5px;"> <div style="border: 1px solid black; padding: 2px 5px;">Log</div> <div style="border: 1px solid black; padding: 2px 5px;">Square</div> <div style="border: 1px solid black; padding: 2px 5px;">SQRT</div> <div style="border: 1px solid black; padding: 2px 5px;">(X)</div> <div style="border: 1px solid black; padding: 2px 5px;">1/x</div> </div>
<div style="display: flex; gap: 5px;"> <div style="border: 1px solid black; padding: 2px 5px;">Analyze Predictor Variables</div> <div style="border: 1px solid black; padding: 2px 5px;">Miss</div> <div style="border: 1px solid black; padding: 2px 5px;">Optima</div> <div style="border: 1px solid black; padding: 2px 5px;">Sum</div> <div style="border: 1px solid black; padding: 2px 5px;">Spline</div> <div style="border: 1px solid black; padding: 2px 5px;">Aggregate</div> </div>	

☒ Interaction Tree: Buyers vs. Non-buyers

Reduce Dimensions

Reconsider Model

FIG. 19.

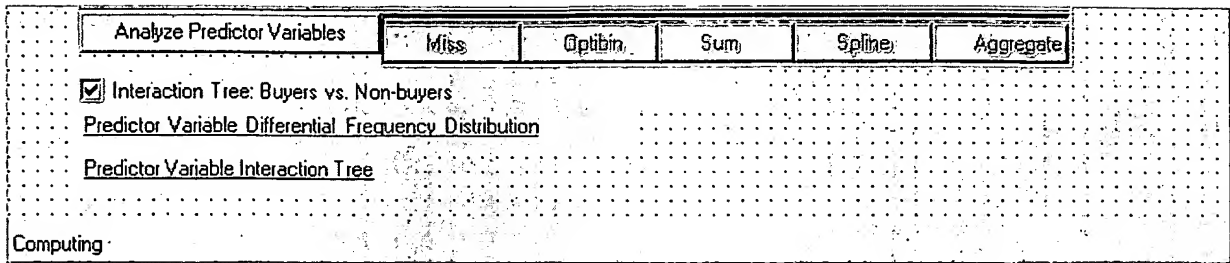


FIG. 20A

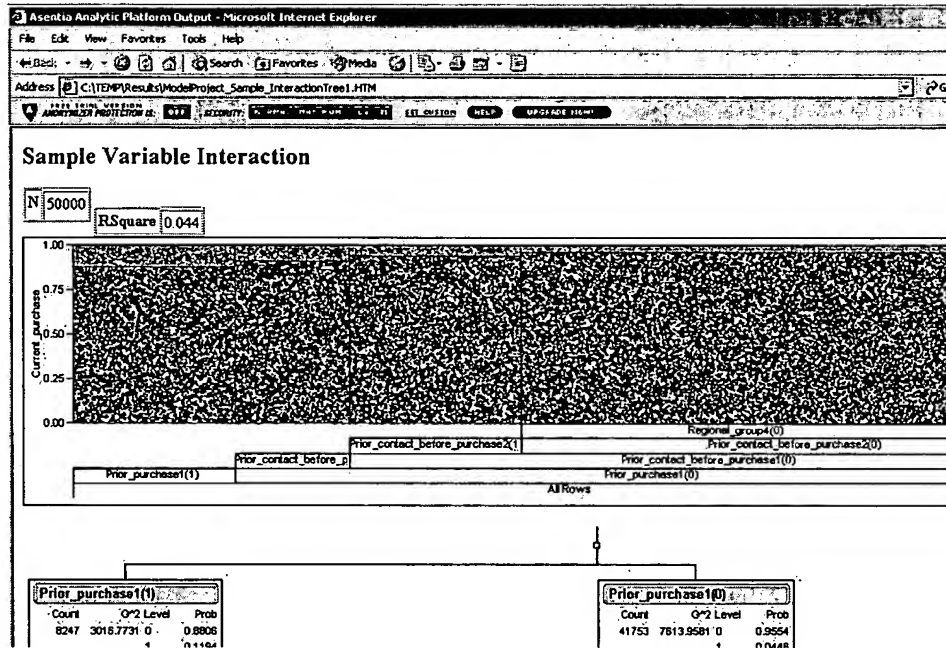


FIG. 20B

Variable Editor	
Variable	Definition
Recent_purchase	Recent_purchase
Description	
Recently purchased	
<div>Edit</div> <div>Save</div> <div>Clear</div>	<div>Log</div> <div>Square</div> <div>SQRT</div> <div>(X)</div> <div>If a < x...</div>
<div>Miss</div> <div>Optibin</div> <div>Sum</div>	

FIG. 21A

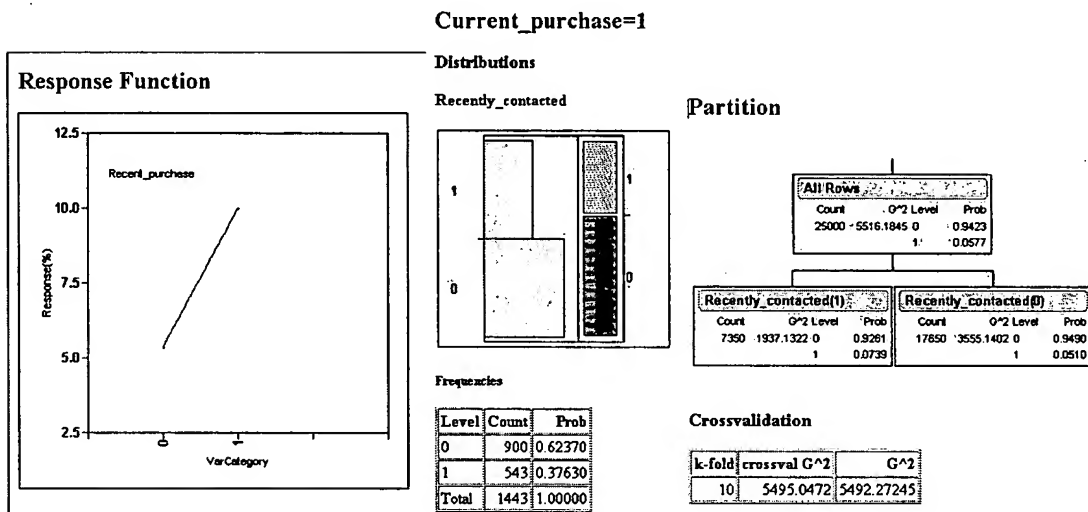


FIG. 21B

Variable Editor	
Variable	Definition
Prior_purchase1_1	Prior_purchase1*
Description	
Purchase of first kind in recent campaign	
<div>Edit</div> <div>Save</div> <div>Clear</div>	<div>Log</div> <div>Square</div> <div>SQRT</div> <div>(X)</div>

FIG. 21C

Variable Editor	
Variable	Definition
Prior_purchase1_I	Prior_purchase1*Prior_contact_before_purchase1
Description	
Purchase of first kind in recent campaign AND Contacted before purchase of first kind	
Edit Save Clear Log Square SQRT (X)	

FIG. 21D

->

regional_group4
Regional_group5
Regional_group6
Prior_purchase1_I

<-

<-

>

Variable Editor	
Variable	Definition
Prior_purchase1_I	Prior_purchase1*Prior_contact_before_purchase1
Description	
Purchase of first kind in recent campaign AND Contacted before purchase of first kind	
Edit Save Clear Log Square SQRT (X)	

Revisit Reduction
Cancel

FIG. 21E

The image shows a software dialog box titled "Dimension Reduction Palette". It contains several settings for variable reduction. Under "Sparsely Populated Variables", there is a checked checkbox "Exclude variables fewer observations less than _% (Default is 5%)" with a dropdown menu showing "5". Under "Forward Stepwise OLS $[X_i, X_j^2, X_k, X^*+Z, (X^*+Z)^2]$ ", there are four checked checkboxes, each with a dropdown menu set to "0.05": "Set Cut-off for Main Effects (Default is 0.05)", "Set Cut-off for Non-linear Interaction (Default is 0.05)", "Set Cut-off for Summation (Default is 0.05)", and "Set Cut-off for Summation (Default is 0.05)". At the bottom left, it says "Number of Predictor Variables reduced to: 12". On the right side, there are four buttons: "Reduce", "Advance to Modeling", "Cancel", and "Review Predictors".

Dimension Reduction Palette

Sparsely Populated Variables

☒ Exclude variables fewer observations less than _% (Default is 5%) 5

Forward Stepwise OLS $[X_i, X_j^2, X_k, X^*+Z, (X^*+Z)^2]$

☒ Set Cut-off for Main Effects (Default is 0.05) 0.05

☒ Set Cut-off for Non-linear Interaction (Default is 0.05) 0.05

☒ Set Cut-off for Summation (Default is 0.05) 0.05

☒ Set Cut-off for Summation (Default is 0.05) 0.05

Reduce

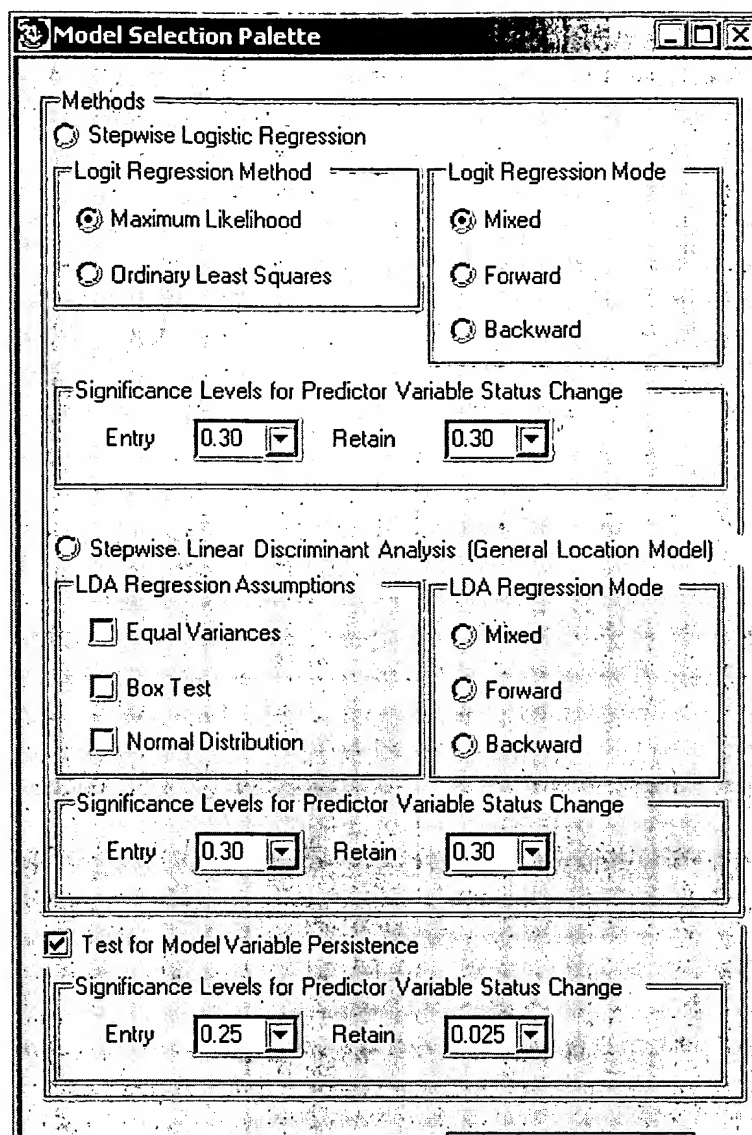
Advance to Modeling

Cancel

Review Predictors

Number of Predictor Variables reduced to: 12

FIG. 22



The image shows a software dialog box titled "Model Selection Palette". It contains three main sections for different statistical methods. The first section is for "Stepwise Logistic Regression", with sub-sections for "Logit Regression Method" (radio buttons for Maximum Likelihood and Ordinary Least Squares) and "Logit Regression Mode" (radio buttons for Mixed, Forward, and Backward). It also has "Significance Levels for Predictor Variable Status Change" with "Entry" and "Retain" dropdowns set to 0.30. The second section is for "Stepwise Linear Discriminant Analysis (General Location Model)", with sub-sections for "LDA Regression Assumptions" (checkboxes for Equal Variances, Box Test, and Normal Distribution) and "LDA Regression Mode" (radio buttons for Mixed, Forward, and Backward). It also has "Significance Levels for Predictor Variable Status Change" with "Entry" and "Retain" dropdowns set to 0.30. The third section is for "Test for Model Variable Persistence", which is checked, and has "Significance Levels for Predictor Variable Status Change" with "Entry" and "Retain" dropdowns set to 0.25 and 0.025 respectively.

Model Selection Palette

Methods

☐ Stepwise Logistic Regression

Logit Regression Method

☒ Maximum Likelihood

☐ Ordinary Least Squares

Logit Regression Mode

☒ Mixed

☐ Forward

☐ Backward

Significance Levels for Predictor Variable Status Change

Entry: Retain:

☐ Stepwise Linear Discriminant Analysis (General Location Model)

LDA Regression Assumptions

☐ Equal Variances

☐ Box Test

☐ Normal Distribution

LDA Regression Mode

☐ Mixed

☐ Forward

☐ Backward

Significance Levels for Predictor Variable Status Change

Entry: Retain:

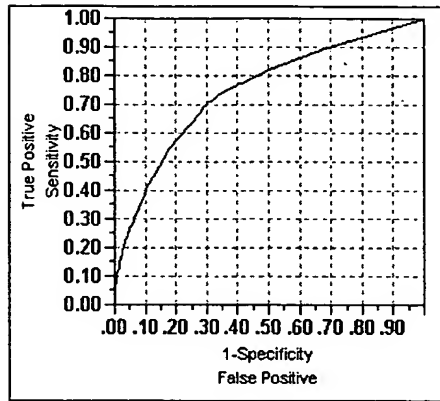
☒ Test for Model Variable Persistence

Significance Levels for Predictor Variable Status Change

Entry: Retain:

FIG. 23A

Receiver Operating Characteristic



Using Current_Purchase='1' to be the positive level
Area Under Curve =
0.74906

Model Gains for Sample

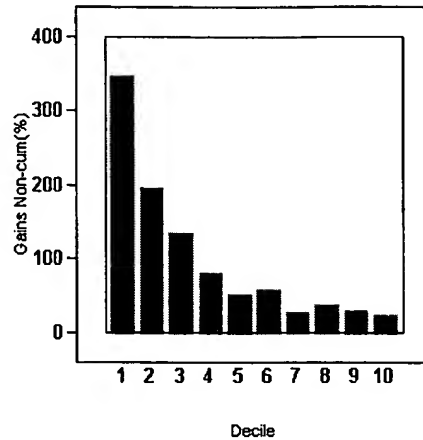


FIG. 23B

Persistence of Model for Key Predictor Variables

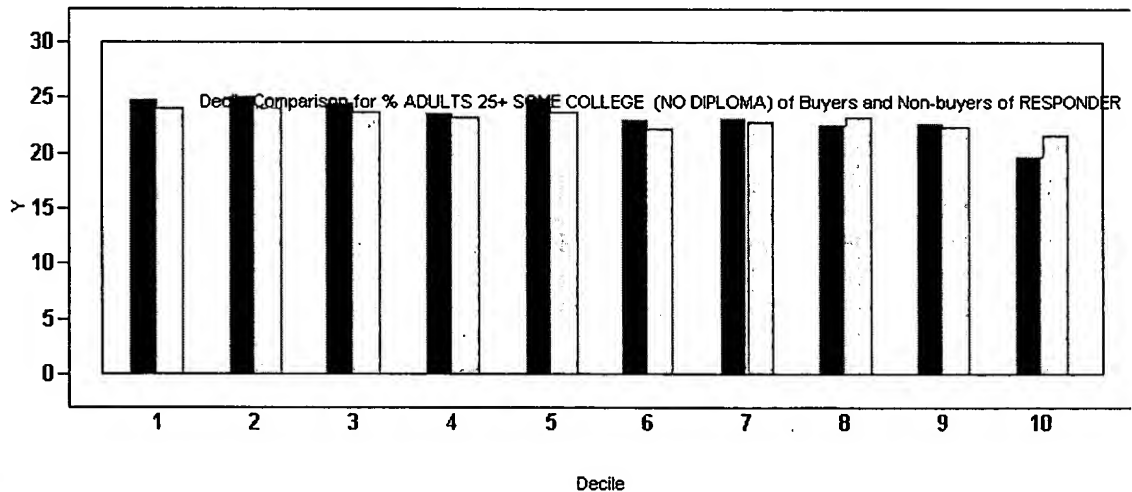


FIG. 23C

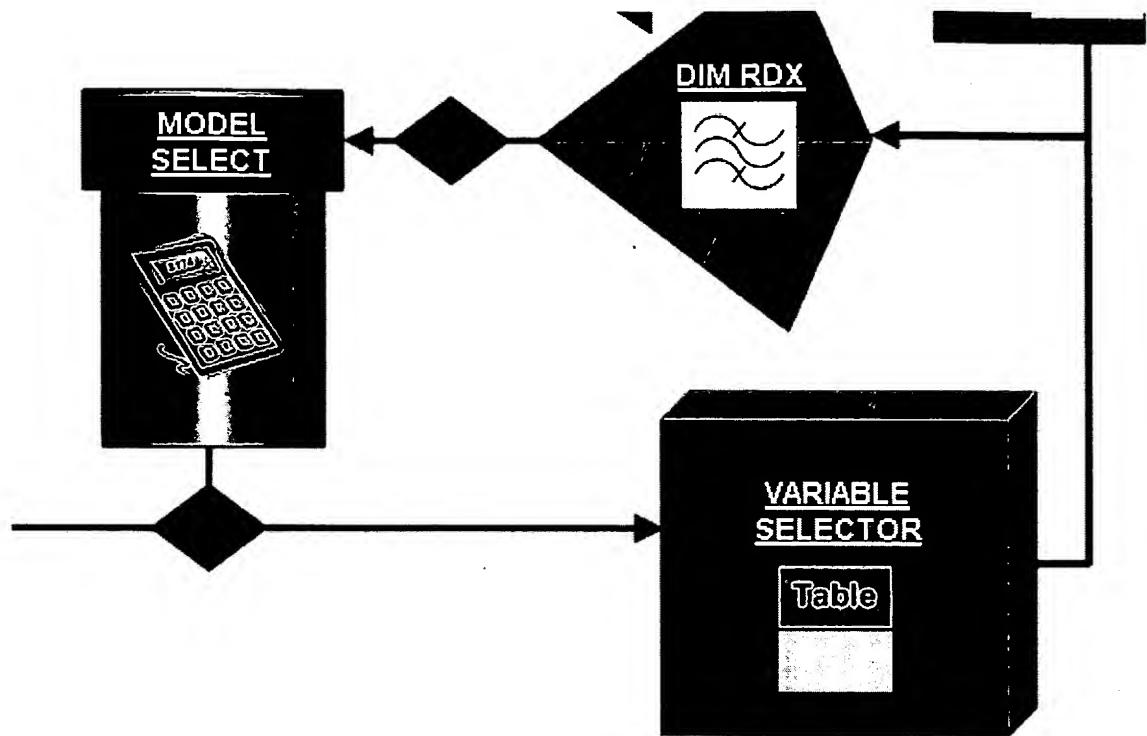


FIG. 24

Final Model Candidate Selection

Target Goals for Final Model

Model Project Target c-Statistic: 0.70
Model Project Target KS-Statistic: 0.25
Model Project Anticipated Penetration Depth: 40
Model Project Monotone Lift Expected: Yes

Select Validation Dataset

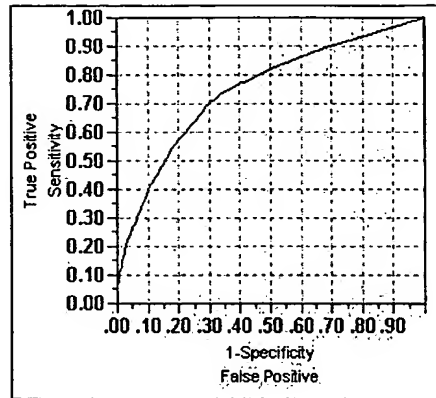
☐ Preselected Sample
☐ Preselected Sample Complement
☐ Full Development Dataset (100%)
☐ Random Sample (%) 0

☒ Model Statistics for Sample vs Validation
☒ Cumulative Lift of Model versus Baseline
☒ Non-Cumulative Lift of Model versus Baseline

Validate Model
Finish Modeling
Reconsider Model
Review Predictors

FIG. 25A

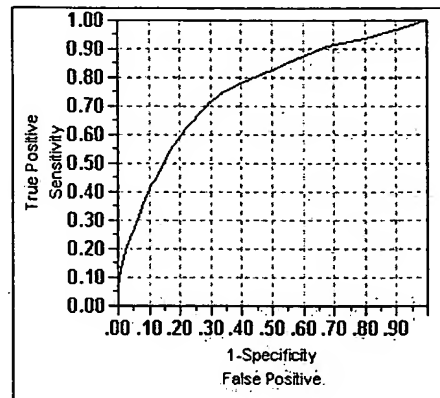
Receiver Operating Characteristic



Using Current_Purchase='1' to be the positive level
Area Under Curve =
0.74906

FIG. 25B

Receiver Operating Characteristic

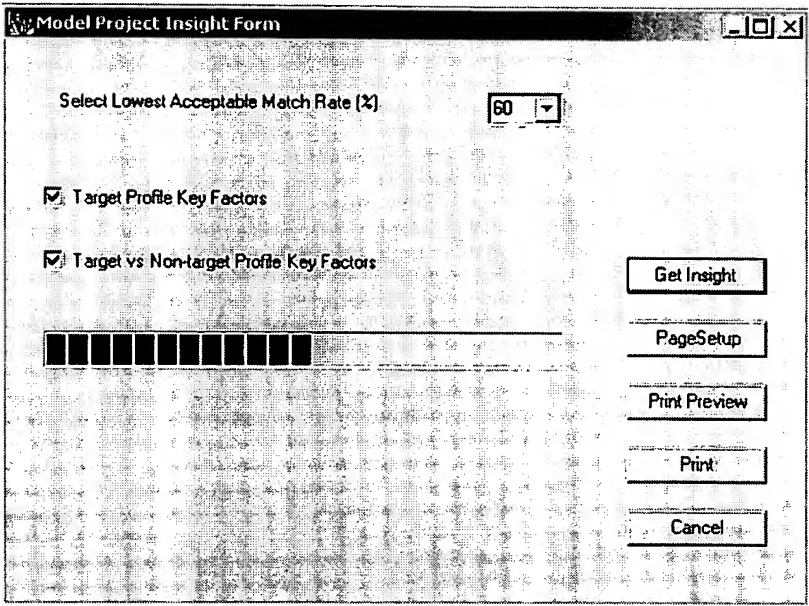


Using Current_Purchase=1' to be the positive level
Area Under Curve =
0.75884

FIG. 25C

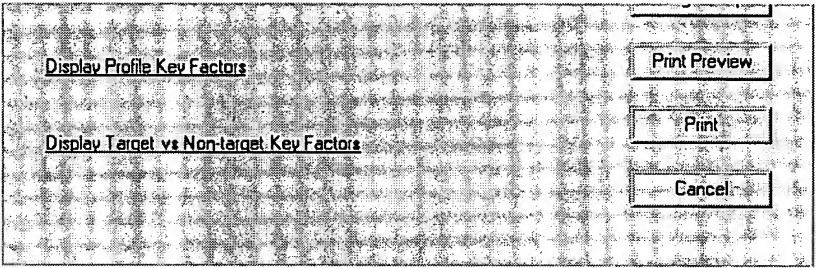


FIG. 26



The image shows a software window titled "Model Project Insight Form". At the top, there is a label "Select Lowest Acceptable Match Rate (%)" followed by a dropdown menu showing the value "60". Below this, there are two checked checkboxes: "Target Profile Key Factors" and "Target vs Non-target Profile Key Factors". Under the second checkbox, there is a horizontal bar chart consisting of ten small black squares. On the right side of the window, there is a vertical stack of five buttons: "Get Insight", "PageSetup", "Print Preview", "Print", and "Cancel".

FIG. 27A



The image shows a software window with two sections. The first section is labeled "Display Profile Key Factors" and the second section is labeled "Display Target vs Non-target Key Factors". To the right of these sections, there is a vertical stack of three buttons: "Print Preview", "Print", and "Cancel".

FIG. 27B

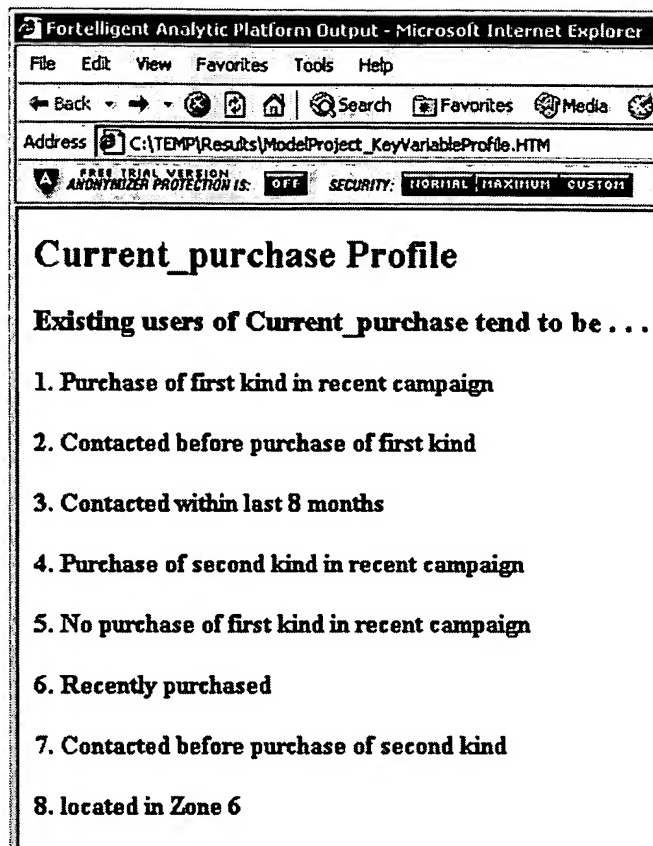


FIG. 27C

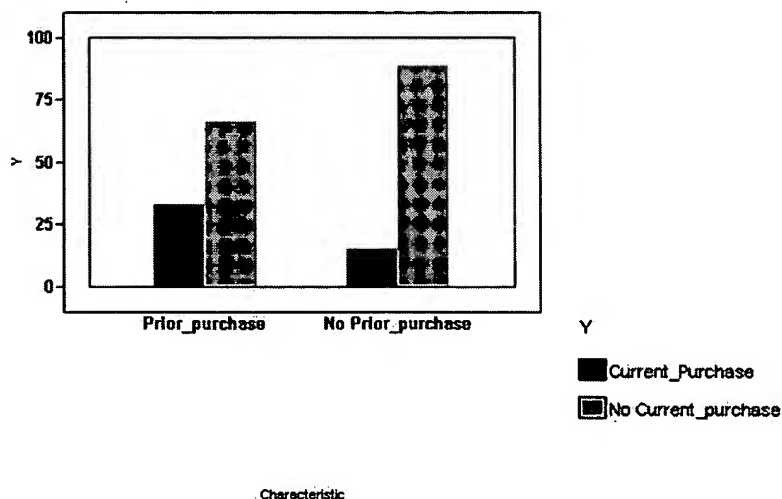


FIG. 27D